

EXPLORATION OF PREHISTORIC SITES IN EAST DERBYSHIRE.

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DURING the past year the excavation of Ash Tree Cave, Burntfield Grips, near Whitwell, N.E. Derbyshire, has been steadily continued by Mr. Leslie Armstrong, Dr. Arthur Court and Mr. W. H. Hanbury, ably assisted in the actual work of excavation and in transport by Mr. Horace Jones of Allestree, whose co-operation and help is gratefully acknowledged. Work in the cave is in active progress and exploratory trenches have recently been cut at the entrance to Site No. 2, a probable cave, or deep rock shelter, on the N.E. side of the valley opposite to Ash Tree Cave; the real nature of which is hidden by an infilling of glacial material.

Mr. Leslie Armstrong reports that at *Ash Tree Cave* work has been concentrated upon the central cross section which, at the date of writing the 1951 Report, had penetrated the yellow cave earth, of Mousterian age, and reached a depth of 6 ft. 6 ins. below datum line. This section has been increased to 7 ft. in width and sunk to a depth of 9 ft. 6 ins. below datum. As anticipated, the cave has become wider as lower levels are reached and at the present base of the section it measures 10 ft. between the walls. There is ample head room at this level and it is apparent that during the Mousterian and Upper Palaeolithic occupations the chamber was of extensive proportions. Evidence of occupation, however, is surprisingly scanty and indicative of occasional use only, both by man and animals. No actual stratification is recognisable in the lower cave earth. The physical conditions to which the deposit has been subjected have obscured and destroyed stratographical evidence, but by observing occurrence of artifacts, crumbs of charcoal, etc., three zones of occupation have been approximately

defined, viz.: *Zone 1*, between 6 ft. and 6 ft. 9 ins., *Zone 2*, between 7 ft. 6 ins. and 8 ft. 6 ins.; *Zone 3*, at 9 ft. 6 ins., the present base of the section, the thickness of which is not yet known. All three zones are of Mousterian age and are separated by zones sterile in artifacts but containing a few fragments of animal bone, such as are left by carnivores.

The lower cave earth is yellowish in colour, exceedingly compact, calcareous, and stony. The stones are fragments of tabular limestone derived from the roof and walls by disintegration, due to frost and water seepage. The Magnesian Limestone in which this cave has been formed is exceptionally irregular in stratification, the beds varying in thickness from less than an inch to five inches; they are also discontinuous and varying in thickness horizontally and all are criss-crossed by vertical fissure planes. These are factors favourable to disintegration and the abundance of fragments contained in the cave earth suggest that it was constantly active until the thick, more homogeneous, bed was reached which forms the existing roof of the cave. The fragments range in size from a few square inches in surface area to slabs with an area of two square feet and over.

It is noticeable that most of the large slabs are found inclined in the cave earth at angles from 30 to 70 degrees, with the heaviest ends at the bottom; suggesting that they fell and settled thus when the deposit was water-logged and in a sludged condition. The extreme compactness of the cave earth is due to these circumstances; which also explain the absence of stratification and the erratic distribution of artifacts noticeable in *Zone 2*.

To the fauna already recorded has been added Cave Lion, Woolly Rhinoceros, Bear, Badger, Arctic Fox, also Red Deer, indicated by fragments of antler.

The artifacts recovered include a few Creswellian flakes and blades from the Upper Palæolithic level, and from the Mousterian zones pebbles and pounders of quartzite; split and chipped quartzite pebbles; two flakes of flint; a small scraper of Derbyshire chert, step flaked on one edge; utilised split bones and a bone awl; also portions of two tibias of bird, each perforated at the distal end for suspension and believed to be personal ornaments, or

amulets. (Similar examples were found in the Mousterian levels of the Pin Hole Cave, Creswell.) An interesting human tooth was found in Zone 2. It is a third molar (wisdom tooth), of the upper right side, with two short and rather weak roots, fused together, and degenerate cusping on the crown. Though abnormal in some respects and possessing some of the characters of a Neanderthal tooth, it lacks the size and robustness of that type. Sir Arthur Keith, to whom it was submitted, says "I do not think that it is Neanderthal. It is the wisdom tooth most probably of a Neanthropic woman. Neanderthal women have rarely such degenerate crowns and never such weak roots."

Though found in association with Mousterian artifacts and apparently *in situ*, the possibility of the introduction of so small an object into that zone from an upper level cannot be ruled out.

Site No. 2. This is situated on the N.E. side of the valley, opposite to Ash Tree Cave, and appears to be a masked cave, but may prove to be a deep rock shelter. It is almost completely sealed by glacial drift and only part of the entrance arch is visible, but the presence of numerous rabbit burrows penetrating the drift and passing under the arch suggests the existence of a chamber; possibly of considerable extent. In order to solve this question, and to ascertain the depth of the glacial drift and prove whether a Pleistocene deposit exists beneath it, two exploratory trenches have been cut, one parallel to the entrance and one at right-angles to it. This work is now in progress. The glacial drift is a calcareous brown sandy loam containing abraded limestone fragments and erratic and Bunter pebbles. It has been excavated to a depth of four feet, but the base of the drift has not been reached. The entrance trench reveals that a chamber exists and that it is solidly filled by drift, but the nature and extent of it remains to be determined. The evidence referred to in the 1949 Report, indicating that a Mesolithic occupation had existed outside the cave, on the surface of the glacial drift, has been confirmed, but owing to the extensive burrowing by rabbits the evidence has been disturbed and obscured over much of the area.